Appl. No. 09/771,977 Amdt. Dated December 3, 2003 Reply to Office action of September 16, 2003 Attorney Docket No. P12291-US1 EUS/J/P/03-2017

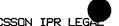
This listing of claims will replace all prior versions, and listings, of claims in the application:

## Listing of Claims:

- (Currently Amended) A method for calibrating one or more amplifiers (100,200) comprising the steps of:
- i) generating a noise sighal (N<sub>2</sub>+N<sub>1</sub>) produced by said one or more amplifiers (100,200) when no input signal (\$i+Ni) is connected (Alt. 2) to at least one amplifier of said one or more amplifiers (100,200); and
- ii) using said noise signal (N<sub>a</sub>+N<sub>i</sub>) as a calibrating signal for estimating a corresponding gain (G) of said one or more amplifiers (100,200) by measuring (600) at at least one output of said one or more amplifiers (100,200) the amount of noise (Stot) of said one or more amplifiers (100,200).
- 2. (Previously Presented) A method for calibrating [at least] one or more amplifiers (100,200) according to claim 1, wherein said gain (G) is further adjusted in accordance with said calibrating signal.
- 3. (Currently Amended) A method for calibrating a receiver (1,2) comprising the steps of:
- i) generating a noise signal (Na+Ni) produced by one or more amplifiers (100,200) of said receiver when an input signal (S<sub>i</sub>+N<sub>i</sub>) is disconnected (Alt. 2) from said receiver; and

Page 2 of 13





Appl. No. 09/771,977 Amdt. Dated December 3, 2003 Reply to Office action of September 16, 2003 Attorney Docket No. P12291-US1 EUS/J/P/03-2017

- ii) using said noise signal (Na+Ni) as a calibrating signal for estimating a corresponding gain (G) of said one/or more amplifiers in said receiver by measuring (600) at the output of the receiver the amount of noise (Stot) of said one or more amplifiers (100,200).
- 4. (Previously Presented) A method for calibrating a receiver according to claim 3, wherein said gain (G) is further adjusted in accordance with said calibrating signal.
- 5. (Previously Presented) A calibration a rangement (1,2) comprising: one or more amplifiers (100,200) for amplifying a radio signal (S<sub>i</sub>+N<sub>i</sub>); estimating means (600) for estimating a gain (G) of said one or more amplifiers (100,200);

disconnecting said radio signal (Si+Ni), while at least one amplifier of said one or more amplifiers (100,200) is producing a calibrating signal (Na+Ni) as a reference signal into said estimating means (600) for estimating said gain (G) of said radio signal (\$i+Ni).

6. (Previously Presented) A calibration arrangement (1,2) comprising: one or more amplifiers (100,200) for amplifying a radio signal (Si+Ni); estimating means (600) for estimating a gain (G) of said one or more amplifiers (100,200);

Page 3 of 13

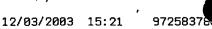
Appl. No. 09/771,977 Amdt. Dated December 3, 2003 Reply to Office action of September 16, 2003 Attorney Docket No. P12291-US1 EUS/J/P/03-2017

wherein said calibration arrangement (1,2) further comprises:

a switching means (10,30+100), for disconnecting said radio signal (S<sub>i</sub>+N<sub>i</sub>), while at least one amplifier of said one or more amplifiers (100,200) is producing a calibrating signal (N<sub>2</sub>+N<sub>1</sub>) as a reference signal into said estimating means (600) for estimating said gain (G) of said radio signal (Si+Ni).

- (Previously Presented) A calibration arrangement (1,2) according to claim 5, wherein said calibrating signal is a pure∖noise signal (Na+N₁) of at least one amplifier of said one or more amplifiers (100,200).
- 8. (Previously Presented) A calibration arrangement (2) according to claim 5, wherein disconnecting said one or more amplifiers (100,200) from said radio signal (S<sub>i</sub>+N<sub>i</sub>) by disconnecting a power supply (500) from at least one amplifier of said one or more amplifiers (100,200).
- 9. (Previously Presented) A calibration arrangement (2) according to claim 6, wherein said switching means (30+100) is disconnecting said one or more amplifiers (200) from said radio signal (Si+Ni) by disconnecting a power supply (500) from at least one amplifier of said one or more amplifiers (100,200).
- 10. (Previously Presented) A calibration arrangement (1) according to claim 5, wherein disconnecting said one or more amplifiers (100,200) from said radio

Page 4 of 13



Appl. No. 09/771,977 Amd! Dated December 3, 2003 Reply to Office action of September 16, 2003 Attorney Docket No. P12291-US1 EUS/J/P/03-2017

signal (Si+Ni) by connecting at least one input of said one or more amplifiers (100,200) to a reference potential (20).

- (Previously Presented) A calibration arrangement (1) according to claim 6, wherein said switching means (10) is disconnecting said one or more amplifiers (200) from said radio signal (S<sub>i</sub>+N<sub>i</sub>)∖by connecting at least one input of said one or more amplifiers (100,200) to a reference potential (20).
- (Previously Presented) A calibration arrangement (1) according to claim 10, wherein said reference potential is provided by a resistance (20) [through] connected to ground.
- 13. (Previously Presented) A calibration arrangement (1,2) according to claim 5, wherein the calibration arrangement (1,2) further comprises:

more than one amplifier (100+200) in a chain for amplifying said received radio signal (S;+N<sub>i</sub>).

14. (Previously Presented) A calibration arrangement (1,2) according to claim 6, wherein said switching means (10,30+100) is disconnecting said one or more amplifiers (100,200) from said radio signal (S<sub>i</sub>+N<sub>i</sub>) by disconnecting at least one input of said one or more amplifiers (100,200) which is closest to an input of said radio signal (Si+Ni).

Page 5 of 13





Appl. No. 09/771,977 Amdi. Dated December 3, 2003 Reply to Office action of September 16, 2003 Attomay Docket No. P12291-US1 EUS/JP703-2017

- 15. (Previously Presented) a calibration arrangement (1,2) according to claim 5, wherein said calibrating signal represents a noise power (kTBF) from said one or more amplifiers (100,200) that comprises:
  - a known Boltzman constant (k);
  - a known bandwith (B) of said noise power;
  - a known noise figure of said noise power;
  - a measured temperature (T) of said receiver.
- 16. (Previously Presented) A calibration arrangement (1,2) according to claim 5, an output from the last one of said one or more amplifiers (100,200) in a chain is connected to an analog-digital-converter (400) for converting analog signals into digital signals.
- 17. (Previously Presented) A calibration arrangement (1,2) according to claim 15, wherein said gain (G) of said radio signal ( $S_i+N_i$ ) is estimated from said calibrating signal ( $N_a+N_i$ ) including said noise power (k+BF) when an output signal ( $S_{tot}$ ) is measured at at least one output of said one or mote amplifiers (100,200).
- 18. (Previously Presented) A calibration arrangement (1,2) according to claim 5, wherein said gain (G) of said radio signal ( $S_i+N_i$ ) is estimated from said calibrating signal ( $N_a+N_i$ ) when an output signal ( $S_{tot}$ ) is measured at at least one output of said one or more amplifiers (100,200).

Page 6 of 13



Appl. No. 09/771,977 Amdi. Dated December 3, 2003 Reply to Office action of Saptember 18, 2003 Attomey Docket No. P12291-US1

97258378

19. (Previously Presented) calibration arrangement (1,2) according to claim 16, wherein said gain (G) of said radio signal (Si+Ni) is estimated from said calibrating signal ( $N_a+N_i$ ) when an output  $\not$  signal ( $S_{tot}$ ) is measured after said analogdigital-converter (400).

20. (Previously Presented) A receiver\(1,2) comprising:

means (300) for receiving a radio signal \((S<sub>i</sub>+N<sub>i</sub>);

one or more amplifiers (100,200) for amplifying said received radio signal  $(S_i+N_i)$ ;

estimating means (600) for estimating a gain (G) of said receiver (12); wherein said receiver further comprises:

- a switching means (10,100) for disconnecting said received signal (S<sub>i</sub>+N<sub>i</sub>). while at least one amplifier of said one or more amplifiers (100,200) is producing a calibrating signal (Na+Ni) as a reference signal to said estimating means (600) for estimating said gain (G) of said radio signal (Si+Ni).
- 21. (Previously Presented) A receiver (1,2) according to claim 20, wherein said calibrating signal is a pure noise signal (Na+Ni) of at least one amplifier of said one or more amplifiers (100,200).



Appl. No. 09/771,977 Amdt. Dated December 3, 2003 Reply to Office sotion of September 16, 2003 Attorney Docket No. P12291-US1 EUS/J/P/03-2017

- 22. (Previously Presented) A receiver (1) according to claim 20, wherein said switching means (10) is disconnecting said radio signal (S<sub>i</sub>+N<sub>i</sub>) by connecting at least one input of said one or more amplifiers (100) to a reference potential (20).
- 23. (Previously Presented) A receiver (1) according to claim 22, wherein said reference potential is provided by a resistance (20) connected to ground.
- 24. (Previously Presented) A receiver (2) according to claim 20, wherein said switching means (100) is disconnecting said one or more amplifiers (100,200) from said radio signal (S<sub>i</sub>+N<sub>i</sub>) by disconnecting a power supply (500) from at least one amplifier of said one or more amplifiers (100,200).
- 25. (Previously Presented) A receiver (1,2) according to claim 20, wherein the receiver (1,2) further comprises:

more than one amplifier (100+200) in a chain for amplifying said received radio signal ( $S_i+N_i$ ).

- 26. (Previously Presented) A receiver (1,2) according to claim 20, wherein said calibrating signal represents a noise power (kTBF) from said one or more amplifiers (100,200) that comprises:
  - a known Boltzman constant (k);
  - a known bandwith (B) of said noise power;

Page 8 of 13

2 Sub Di Appl. No. 09/771,977 Arndt. Dated December 3, 2003 Reply to Office action of September 16, 2003 Attorney Docket No. P12291-US1

a known noise figure of said noise power;

a measured temperature (T) of said receiver.

- 27. (Previously Presented) A receiver (1,2) according to claim 20, wherein an output from the last one of said one or more amplifiers (200) in a chain is connected to an analog-digital-converter (400) for converting analog signals into digital signals.
- 28. (Previously Presented) A receiver (1,2) according to claim 26, wherein said gain (G) of said received radio signal (S<sub>i</sub>+N<sub>i</sub>) is estimated from said calibrating signal (N<sub>a</sub>+N<sub>i</sub>) including said noise power (kTBF) when an output signal (S<sub>tot</sub>) is measured at at least one output of said one or more amplifiers (100,200).
- 29. (Previously Presented) A receiver (1,2) according to claim 20, wherein said gain (G) of said received radio signal ( $S_i+N_i$ ) is estimated from said calibrating signal ( $N_a+N_i$ ) when an output signal ( $S_{tot}$ ) is measured at at least one output of said one or more amplifiers (100,200).
- 30. (Previously Presented) A receiver (1,2) according to claim 27, wherein sald gain (G) of said received radio signal ( $S_i+N_i$ ) is estimated from said calibrating signal ( $N_a+N_i$ ) when an output signal ( $S_{tot}$ ) is measured after said analog-digital-converter (400).

Page 9 of 13